IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	10/663,598	Confirmation No.: 3266
Applicant:	Gerald Winton Lankford	
Filed:	September 16, 2003	
Group Art Unit:	2617	
Examiner:	Kwasi Karikari	
Title:	Apparatus, And Associated Method, For Facilitating Determination of Mobile Roaming Relationship	

Docket No.:	1578.109
Customer No.:	44208

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF ON APPEAL

Dear Sir:

This brief is submitted in triplicate on behalf of Appellant for the application identified above. The Commissioner is hereby authorized to charge any fees which may be required pursuant to this Brief, or credit any overpayment, to Deposit Account No. 50-2032.

REAL PARTY IN INTEREST

The real party in interest for this appeal is the assignee of the application, Research in Motion Limited, by assignment executed on October 21, 2003, and recorded at Reel 014447 and Frame 0833 of the U.S. Patent and Trademark Office.

RELATED APPEALS AND INTERFERENCES

There are no currently-pending appeals or interferences related to the present application.

STATUS OF CLAIMS

In the Final Office Action dated August 9, 2007, Claims 1 and 13 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

Claims 1-7, 9-11, and 13-20 stand rejected under 35 U.S.C. § 103(a) as being anticipated by U.S. Patent Pub. No. 2005/0118998 to Sanchez Ferreras et al. (hereinafter "*Sanchez*") in view of U.S. Patent Pub. No. 2004/0190522 to Aerrabotu et al. (hereinafter "*Aerrabotu*").

Claims 8 and 12 have been cancelled, without prejudice or disclaimer.

Appeal is made of the rejection of all of the claims, *i.e.*, Claims 1-7, 9-11, and 13-20.

STATUS OF AMENDMENTS

No amendments to the claims have been filed subsequent to the final Office action dated August 9, 2007.

SUMMARY OF CLAIMED SUBJECT MATTER

The claims of the present invention are directed to an apparatus (42), and an associated method (80), for forming a roaming network list (46) that identifies roaming arrangements between network operators of a cellular, or other mobile, communication system (10) in which different networks are operated by different network operators. The roaming network list (46) is dynamically created through detection, at a detector (48), of positional information of mobile nodes (12) that operate pursuant to communications with different ones of the networks (16, 18) of the communication system (10). An associator (52) associates mobile nodes (12), by their home networks (16), with networks (18) with which the mobile nodes (12) are capable of communicating. Associations made by the associator (52) are used to form the roaming network list (46), which is stored in a storage element (44). The roaming relationship

associations are represented in the roaming network list (46) by entries, individual ones of which, when aged beyond a selected age, are, without being deleted, given less weight than other entries (page 12, lines 5-6), that is, given less reliance as to the present state of the roaming capabilities identified by the entry (page 8, lines 29-32). Subsequent access to the list (46) permits the roaming arrangements, dynamically determined, to be ascertained.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 and 13 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

Claims 1-7, 9-11, and 13-20 stand rejected under 35 U.S.C. § 103(a) as being anticipated by U.S. Patent Pub. No. 2005/0118998 to Sanchez Ferreras et al. (hereinafter "*Sanchez*") in view of U.S. Patent Pub. No. 2004/0190522 to Aerrabotu et al. (hereinafter "*Aerrabotu*").

ARGUMENTS

Rejection of Claim 1 under 35 U.S.C. § 112, first paragraph

Claim 1 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. More specifically, in the Final Office Action, dated August 9, 2007, it was asserted that:

> The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claimed limitations "the entries given less weight than other entries, **without being** deleted", in claims 1 and 13 are not clearly described in the specification as originally filed and this constitute new matter. The Applicant cited page 8, line 31 and page 12, lines 6 of the specification to support such amended claimed languages. However the cited lines reads:
>
> ["Entries in the roaming network list are selectably deleted when the entry ages beyond a selected age. That is to say, when

the time-stamp associated with an entry is aged beyond a selected age, **the entry is removed, or otherwise given less reliance** as to the present state of the roaming capabilities identified by the entry]" **and** ["When the information becomes dated, i.e., is stored at the roaming network list for greater than a selected time period, **the entry is deleted, or otherwise given lesser weight** than other entries].

and they are not the same as the amended claimed limitations in claims 1 and 13. For examination purposes, the Examiner would interpret the rejected claimed limitations in the broadest scope of the Applicant's invention.

In response, Appellants respectfully submit that the references cited by Applicant and repeated above by the Examiner support the amendments to Claim 1. As noted on page 12, lines 5-6, the specification states that

"... the entry is deleted, or otherwise given less weight ...".

The corresponding amendment to Claim 1 states that

"... individual ones of the entries given less weight than other entries, without being deleted ...".

Appellants appreciate that the courtesies extended by Examiner Karikari in telephone interviews conducted on October 6 and 22, and November 6, 2007, between Examiner Karikari and Applicant's attorney. In those interviews, the Examiner asserted that the language in the specification, namely, "... the entry is deleted, or otherwise given less weight ..." does not encompass the claim language "... without being deleted ...". Appellants note that the term "otherwise" is defined as "or else"[1], "in another way"[2], "in another and different manner"[3]. It is respectfully submitted that, in the present context, "... the entry is deleted, or otherwise given less weight ..." would necessarily be the equivalent to saying "... the entry is deleted, or else, without being deleted, is given less weight ...".

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[1] Random House Unabridged Dictionary, © Random House, Inc. 2006
[2] The American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2006 by Houghton Mifflin Company.
[3] WordNet® 3.0, © 2006 by Princeton University

Appellant also notes that the last paragraph of Claim 1, which states, with emphasis added by way of underlining:

> a storage element coupled to said associator, said storage element configured to <u>store values</u> representative of associations formed by said associator, the values together forming a roaming network table indicating the roaming relationships, the <u>values forming entries</u>, the mobile nodes identified in terms of their respective home network portions and individual ones of the <u>entries given less weight than other entries, without being deleted</u>, when aged beyond a selected age, the roaming network table accessible to identify the roaming relationships identified therein, usable subsequently to determine roaming capabilities of selected coverage areas of selected network portions.

As indicated by highlighting above, values form entries, and the values are <u>stored</u> in the storage element. Accordingly, the entries given less weight are <u>stored</u> entries, and hence not deleted.

Still further, Claims 10 and 11 recite a deleter for deleting selected values of the roaming entry table maintained at said storage element when aged beyond the selected age. The negative implication would necessarily be that such a deleter is not encompassed by Claim 1, and that such values are not deleted in Claim 1.

In light of the foregoing, it is respectfully submitted that the recitation of "... without being deleted ..." in Claim 1 is supported by the specification as originally filed, and therefore, adds no new matter to the application. Accordingly, it is requested that the rejection of Claim 1 as failing to comply with the written description requirement of 35 U.S.C. § 112 be overruled.

The Examiner also asserted verbally in the aforementioned telephone interview of November 6th, that "entries given less weight than other entries", as recited in Claim 1, was indefinite. In a review of a parallel portion of the specification, cited by the Examiner above, at page 8, lines 29-32, it is stated that:

> ... when the time-stamp associated with an entry is aged beyond a selected age, the entry is removed, or otherwise given <u>less reliance as to the present state of the roaming capabilities identified by the entry</u>. (emphasis added)

It is respectfully submitted that the quoted language of the specification at page 8, lines 29-32, clarifies and renders definite the clause "entries given less weight than other entries".

Rejection of Claim 13 under 35 U.S.C. § 112, first paragraph

Claim 13 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. More specifically, in the Final Office Action, dated August 9, 2007, it was asserted that:

> The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claimed limitations "the entries given less weight than other entries, without being deleted", in claims 1 and 13 are not clearly described in the specification as originally filed and this constitute new matter. The Applicant cited page 8, line 31 and page 12, lines 6 of the specification to support such amended claimed languages. However the cited lines reads:

> ["Entries in the roaming network list are selectably deleted when the entry ages beyond a selected age. That is to say, when the time-stamp associated with an entry is aged beyond a selected age, **the entry is removed, or otherwise given less reliance** as to the present state of the roaming capabilities identified by the entry]" **and** ["When the information becomes dated, i.e., is stored at the roaming network list for greater than a selected time period, **the entry is deleted, or otherwise given lesser weight** than other entries].

> and they are not the same as the amended claimed limitations in claims 1 and 13. For examination purposes, the Examiner would interpret the rejected claimed limitations in the broadest scope of the Applicant's invention.

In response, Appellants respectfully submit that the references cited by Applicant and repeated above by the Examiner support the amendments to Claim 13. As noted on page 12, lines 5-6, the specification states that

> "… the entry is deleted, or otherwise given less weight …".

The corresponding amendment to Claim 13 states that:

"... individual ones of the entries are, without being deleted, given
less weight than other entries ...".

In the aforementioned telephone interviews conducted on October 6 and 22 and November 6, 2007, between Examiner Karikari and Applicant's attorney, the Examiner asserted that the language in the specification, namely, "... the entry is deleted, or otherwise given less weight ..." does not encompass the claim language "... without being deleted ...". Appellants note that the term "otherwise" is defined as "or else"[4], "in another way"[5], "in another and different manner"[6]. It is respectfully submitted that, in the present context, "... the entry is deleted, or otherwise given less weight ..." would necessarily be the equivalent to saying "... the entry is deleted, or else, without being deleted, is given less weight ...".

In light of the foregoing, it is respectfully submitted that the recitation of "... without being deleted ..." in Claim 13 is supported by the specification as originally filed, and therefore, adds no new matter to the application. Accordingly, it is requested that the rejection of Claim 13 as failing to comply with the written description requirement of 35 U.S.C. § 112 be overruled.

Rejection of Claim 1-7 and 9-11 under 35 U.S.C. § 103(a)

With reference to whether Claims 1-7 and 9-11 are patentable under 35 U.S.C. 103(a) over *Sanchez* in view of *Aerrabotu*, *Sanchez* has been cited as fully disclosing Appellant's invention, except merely for the network being a packet data network, and that the network is connected to other networks by way of a respective gateway to each of the respective network portions in whose coverage areas the mobile nodes are positioned, for which *Aerrabotu* has been cited. *Aerrabotu*, however, does not cure this deficiency of *Sanchez*. While *Aerrabotu* teaches a packet data network for coupling a packet filter to an emergency HLR (see, *e.g.*, Fig. 1), *Aerrabotu* fails to teach or suggest a packet data network and gateway through which a detector

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[4] Random House Unabridged Dictionary, © Random House, Inc. 2006

[5] The American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2006 by Houghton Mifflin Company.

[6] WordNet® 3.0, © 2006 by Princeton University

receives positional information of a mobile node as recited by Appellants in independent
Claim 1.

Even if, for the sake of argument, the packet data network of *Aerrabotu* did cure the
identified deficiency of *Sanchez*, it is submitted that it would be improper to combine *Aerrabotu*
with *Sanchez*. First, there is no suggestion in either *Aerrabotu* or *Sanchez* to combine the two
references together. Second, it is not at all clear how the two references could be combined
without arbitrarily (and improperly) picking and choosing different elements of each reference
and assembling them in manners not taught by either reference, but only with the benefit of
hindsight, to interpose a packet data network between the detector and each network portion by
way of respective gateways.

Still further, Appellant recites in independent Claim 1 that:

> ... the mobile nodes identified in terms of their respective home
> network portions and individual ones of the entries given less
> weight than other entries, without being deleted, when aged
> beyond a selected age ... (emphasis added)

Sanchez fails to teach or even suggest giving less weight to entries, without deleting such
entries (*i.e.*, as discussed above, given less reliance as to the present state of the roaming
capabilities identified by the entry), and *Aerrabotu* does not cure this cited deficiency of
Sanchez. The Examiner has cited paragraphs [0013] and [0055] of *Sanchez* as teaching same.
Paragraph [0013] teaches:

> ... The system comprises the possibility of cleaning the data stored
> in the log to periodically eliminate all unnecessary information.

Paragraph [0055] teaches:

> If the subscriber returns to his/her network, his/her entry will be
> eliminated.

It is apparent that *Sanchez* teaches the elimination of information, but in clear contrast to
Appellant's Claim 1, fails to teach or suggest giving individual ones of entries less weight than
other entries, without deleting, *i.e.*, eliminating, such entries.

Because Claims 1-7 and 9-11 depend from and further limit independent Claim 1, in a patentable sense, it is respectfully submitted that the rejection of Claims 1-7 and 9-11 should, for the reasons set forth above, also be overruled.

Rejection of Claim 13-20 under 35 U.S.C. § 103(a)

With reference to whether Claims 13-20 are patentable under 35 U.S.C. 103(a) over *Sanchez* in view of *Aerrabotu*, *Sanchez* has been cited as fully disclosing Appellant's invention, except merely for the network being a packet data network, and that the network is connected to other networks by way of a respective gateway to each of the respective network portions in whose coverage areas the mobile nodes are positioned, for which *Aerrabotu* has been cited. *Aerrabotu*, however, does not cure this deficiency of *Sanchez*. While *Aerrabotu* teaches a packet data network for coupling a packet filter to an emergency HLR (see, *e.g.*, Fig. 1), *Aerrabotu* fails to teach or suggest a packet data network and gateway through which a detector receives positional information of a mobile node as recited by Appellants in independent Claim 13.

Even if, for the sake of argument, the packet data network of *Aerrabotu* did cure the cited deficiency of *Sanchez*, it is submitted that it would be improper to combine *Aerrabotu* with *Sanchez*. First, there is no suggestion in either *Aerrabotu* or *Sanchez* to combine the two references together. Second, it is not at all clear how the two references could be combined without arbitrarily (and improperly) picking and choosing different elements of each reference and assembling them in manners not taught by either reference, but only with the benefit of hindsight, to interpose a packet data network between the detector and each network portion by way of respective gateways.

Still further, Appellant recites in independent Claim 13 that:

> ... the roaming network table comprised of entries in which the mobile nodes are identified in terms of their respective home network portions of which individual ones of the entries are, without being deleted, given less weight than other entries, when aged beyond a selected age, the roaming network table accessible

> to identify the roaming relationships identified therein ...
> (emphasis added)

Sanchez fails to teach or even suggest giving less weight to entries, without deleting such entries (*i.e.*, as discussed above, given less reliance as to the present state of the roaming capabilities identified by the entry), and *Aerrabotu* does not cure this cited deficiency of *Sanchez*. The Examiner has cited paragraphs [0013] and [0055] of *Sanchez* as teaching same. Paragraph [0013] teaches:

> ... The system comprises the possibility of cleaning the data stored
> in the log to periodically eliminate all unnecessary information.

Paragraph [0055] teaches:

> If the subscriber returns to his/her network, his/her entry will be
> eliminated.

It is apparent that *Sanchez* teaches the elimination of information, but in clear contrast to Appellant's Claim 13, fails to teach or suggest giving individual ones of entries less weight than other entries, without deleting, *i.e.*, eliminating, such entries.

Because Claims 14-20 depend from and further limit independent Claim 13, in a patentable sense, it is respectfully submitted that the rejection of Claims 14-20 should, for the reasons set forth above, also be overruled.

Summary

In summary, it is apparent that Claims 1 and 13 comply with the written description requirement of 35 U.S.C. § 112. Still further, it is also apparent that *Sanchez* and *Aerrabotu* fail to teach, suggest, or render obvious the unique combination now recited in independent Claims 1 and 13. Accordingly, it is respectfully submitted that the rejections by the Examiner based upon these references cannot stand, and it is respectfully requested that they be overruled. Similarly, the rejection of Claims 2-7, 9-11, and 14-20, which depend from and further limit independent Claims 1 and 13, in a patentable sense, should, for this reason and the reasons set forth above, also be overruled.

CONCLUSION

In view of the foregoing, it is apparent that Claims 1 and 13 comply with the written description requirement of 35 U.S.C. § 112, first paragraph, are definite, and that none of the cited references, either singularly or in any combination, teach, suggest, or render obvious the unique combination now recited in independent Claims 1 and 13. It is therefore respectfully submitted that Claims 1 and 13 clearly and precisely distinguish over the cited combinations of references in a patentable sense, and are therefore allowable over those references and the remaining references of record. Accordingly, it is respectfully requested that the rejection of Claims 1 and 13 under 35 U.S.C. § 103(a) as being unpatentable over *Sanchez* in view of *Aerrabotu* and under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, be overruled.

Claims 2-7, 9-11, and 14-20 depend from and further limit independent Claims 1 and 13, in a patentable sense, and, for this reason and the reasons set forth above, are also deemed to be in condition for allowance. Accordingly, it is respectfully requested that the rejections of dependent Claims 15-16 and 18-23 be overruled, as well.

Applicant respectfully requests that the Board of Appeals reverse the decision of the Examiner in which all of the pending claims of the Application were rejected, so that the application may be passed to issue.

Respectfully submitted,

/Jack D. Stone/

Dated: November 9, 2007

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CLAIMS APPENDIX

1.   Apparatus for a radio communication system having a packet data network and multiple network portions, each of said network portions being connected to said packet data network by way of a respective gateway, said apparatus comprising:

a detector adapted to receive values of positional information associated with mobile nodes during operation thereof to communicate by way of said packet data network coupled by way of said respective gateway to each of said respective network portions in whose coverage areas that the mobile nodes, respectively, are positioned, said detector configured to form indications of the values of the positional information;

an associator adapted to receive the indications formed by said detector of the values of the positional information, said associator configured to associate positioning of each of the mobile nodes with a corresponding respective network portion, through which communications are effectuated, thereby to identify roaming relationships between each of the mobile nodes and the corresponding network portions when the mobile nodes are roaming; and

a storage element coupled to said associator, said storage element configured to store values representative of associations formed by said associator, the values together forming a roaming network table indicating the roaming relationships, the values forming entries, the mobile nodes identified in terms of their respective home network portions and individual ones of the entries given less weight than other entries, without being deleted, when aged beyond a selected age, the roaming network table accessible to identify the roaming relationships identified therein, usable subsequently to determine roaming capabilities of selected coverage areas of selected network portions.

2.   The apparatus of claim 1 wherein each mobile node has an identifier associated therewith and wherein said detector is further adapted to receive the identifier and for detecting values thereof.

3.   The apparatus of claim 2 wherein the radio communication system comprises a cellular radio communication system that provides for GPRS (General Packet Radio Service) and wherein the identifier associated with each mobile node comprises at least a portion of an IMSI (International Mobile Subscriber Identity) number.

4.   The apparatus of claim 3 wherein the IMSI number includes a Mobile Network Code (MNC) and wherein the at least the portion of the IMSI number of which said detector detects the values comprises the Mobile Network Code, the Mobile Network Code identifying a home network portion associated with each mobile node, the home network portion a network portion of the multiple network portions.

5.   The apparatus of claim 3 wherein the IMSI number includes a Mobile Country Code (MCC) and wherein the at least the portion of the IMSI number of which said detector detects the values comprises the Mobile Country Code.

6.   The apparatus of claim 1 wherein each mobile node registers with a network portion of the multiple network portions at selected times and wherein the positional information detected by said detector is communicated by each mobile node pursuant to registration with the network part.

7.   The apparatus of claim 1 wherein communications of each mobile node are formatted into messages, the messages having header parts and wherein the positional information detected by said detector is embodied in the header parts of the messages.

8.   (Canceled)

9.   The apparatus of claim 1 wherein the roaming network table further includes an indication of a time at which the values representative of the associations are stored at said storage element.

10.   The apparatus of claim 9 further comprising a roaming table entry deleter coupled to said storage element, said roaming table entry deleter selectably operable to delete selected values of the roaming entry table maintained at said storage element when aged beyond the selected age.

11.   The apparatus of claim 10 wherein said roaming table entry deleter deletes values of the roaming network table stored thereat for longer than a selected time period, the selected time period identifying aging beyond the selected age.

12.   (Canceled)

13.   A method for a radio communication system having a packet data network and multiple network portions, each of said network portions being connected to said packet data network by way of a respective gateway, said method comprising the operations of:

detecting values of positional information, the positional information associated with mobile nodes and communicated by the mobile nodes by way of said packet data network coupled by way of said respective gateway to each of said respective network portions in whose coverage areas the mobile nodes, respectively, are positioned;

associating positioning of each of the mobile nodes with corresponding network portions, respectively, through which communications are effectuated, thereby to identify roaming relationships between each of the mobile nodes and the corresponding network portions when the mobile nodes are roaming; and

forming a roaming network table indicating the roaming relationships, the roaming network table comprised of entries in which the mobile nodes are identified in terms of their respective home network portions of which individual ones of the entries are, without being deleted, given less weight than other entries, when aged beyond a selected age, the roaming network table accessible to identify the roaming relationships identified therein; and

using the roaming network table to determine roaming capabilities of selected coverage areas of selected network portions.

14.   The method of claim 13 wherein said operation of detecting further comprises detecting values that identify each mobile node.

15.   The method of claim 14 wherein the radio communication system comprises a cellular radio communication system that provides for GPRS (General Packet Radio Service) and wherein the values that identify each mobile node during said operation of detecting comprise at least a portion of an IMSI (International Mobile Subscriber Identity) number.

16.   The method of claim 15 wherein the at least the portion of the IMSI number comprises a mobile network code, the mobile network code identifying a home network portion associated with each mobile node, the home network portion a network portion of the multiple network portions.

17.   The method of claim 15 wherein the at least the portion of the IMSI number comprises a mobile country code.

18.   The method of claim 15 wherein said operation of forming the roaming table further comprises identifying times at which values are entered thereat.

19.   The method of claim 18 further comprising the operations of accessing the roaming network table and determining the roaming relationships indicated therein.

20.   The method of claim 13 further comprising the operation of deleting entries out of the roaming network table once aged beyond the selected age.